

WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECOND BY LETTERS
PATENT OF THE UNITED STATE IS:

1. An optical writing device comprising:

5 a housing having an opening;

a dustproof member configured to be light permeable and
close the opening;

a light source installed in said housing and configured
to irradiate an image carrier with a light beam through said
10 dustproof member; and

a shield movable between a first position to cover said
dustproof member and a second position to uncover said
dustproof member.

15 2. The optical writing device according to Claim 1,
further comprising a cleaner attached to said shield and
arranged to contact said dustproof member.

3. The optical writing device according to Claim 1,
20 further comprising a driver for moving said shield.

4. The optical writing device according to Claim 3,
further comprising a positioning mechanism configured to
position said shield to the first position by using said
25 driver.

5. An image forming apparatus for electrophotographic image forming comprising:

an image carrier for carrying an image formed with
5 irradiation of a light beam; and

an optical writing device comprising:

a housing having an opening;

a dustproof member configured to be light
permeable and close the opening;

10 a light source installed in said housing and
configured to irradiate said image carrier with the light
beam through said dustproof member; and

a shield movable between a first position to
cover said dustproof member and a second position to uncover
15 said dustproof member.

6. The image forming apparatus according to Claim 5,
wherein said optical writing device further comprises a
cleaner attached to said shield and arranged to contact said
20 dustproof member.

7. The image forming apparatus according to Claim 5,
wherein said optical writing device further comprises a
driver for moving said shield.

8. The image forming apparatus according to Claim 7,
wherein said optical writing device further comprises a
positioning mechanism configured to position said shield to
the first position by using said driver while an image
5 forming operation of the image forming apparatus is inactive.

9. The image forming apparatus according to Claim 5,
further comprising a driver for moving said shield.

10 10. The image forming apparatus according to Claim 9,
further comprising a positioning mechanism configured to
position said shield to the first position by using said
driver while an image forming operation of the image forming
apparatus is inactive.

15

11. An image forming apparatus for
electrophotographic image forming comprising:

an image carrier configured to carry an image formed
with irradiation of a light beam;

20 an optical writing device comprising:

a housing having an opening;

a dustproof member configured to be light
permeable and close the opening; and

a light source installed in said housing and
25 configured to irradiate said image carrier with the light
beam through said dustproof member, and

a shield movable between a first position to cover said dustproof member and a second position to uncover said dustproof member.

5 12. The image forming apparatus according to Claim 11, further comprising a cleaner attached to said shield and arranged to contact said dustproof member.

10 13. The image forming apparatus according to Claim 11, further comprising a driver for moving said shield.

15 14. The image forming apparatus according to Claim 13, further comprising a positioning mechanism configured to position said shield to the first position by using said driver while an image forming operation of the image forming apparatus is inactive.

20 15. An optical writing device comprising:
a housing for enclosing an optical writing mechanism,
said housing having an opening;

shielding means for light-permeably shielding the opening;

light irradiating means for irradiating an external image carrier with a light beam through said shielding means;
25 and

covering means for covering said shielding means during

an inactive state of the optical writing mechanism and uncovering said shielding means.

16. The optical writing device according to Claim 15,
5 further comprising cleaning means for cleaning an exterior of said shielding means.

17. The optical writing device according to Claim 15,
further comprising driving means for activating said covering
10 means.

18. The optical writing device according to Claim 17,
further comprising positioning means for positioning said
covering means by using said driving means when the optical
15 writing mechanism is inactive.

19. An image forming apparatus for
electrophotographic image forming, comprising:

image carrying means for carrying an image formed with
20 irradiation of a light beam; and

optical writing means comprising:

a housing for enclosing an optical writing
mechanism, said housing having an opening;

shielding means for light-permeably closing the
25 opening;

light irradiating means for irradiating said
image carrying means with the light beam through said closing
means; and

covering means for covering said shielding means
5 during an inactive state of the optical writing mechanism and
uncovering said shielding means.

20. The image forming apparatus according to Claim 19,
wherein said optical writing means further comprises cleaning
10 means for cleaning an exterior of said shielding means.

21. The image forming apparatus according to Claim 19,
wherein said optical writing means further comprises driving
means for activating said covering means.

15

22. The image forming apparatus according to Claim 21,
wherein said optical writing means further comprises
positioning means for positioning said covering means by
using said driving means while an image forming operation of
20 the image forming apparatus is inactive.

23. The image forming apparatus according to Claim 19,
further comprising driving means for activating said covering
means.

25

24. The image forming apparatus according to Claim 23,
further comprising positioning means
for positioning said covering means by using said driving
means while an image forming operation of the image forming
5 apparatus is inactive.

25. An image forming apparatus for
electrophotographic image forming, comprising:
image carrying means for carrying an image formed with
10 irradiation of a light beam;
optical writing means comprising:
a housing for enclosing an optical writing
mechanism, said housing having an opening;
shielding means for light-permeably shielding the
15 opening; and
light irradiating means for irradiating said
image carrying means with the light beam through said
shielding means, and
covering means for covering said shielding means during
20 an inactive state of the image forming apparatus and
uncovering said shielding means.

26. The image forming apparatus according to Claim 25,
further comprising cleaning means for cleaning an exterior of
25 said shielding means.

27. The image forming apparatus according to Claim 25, further comprising driving means for activating said covering means.

5 28. The image forming apparatus according to Claim 27, further comprising positioning means for positioning said covering means by using said driving means while an image forming operation of the image forming apparatus is inactive.

10 29. An optical writing method comprising the steps of:

storing an optical writing mechanism into a housing having an opening;

15 closing the opening with a light-permeable dustproof member;

emitting a light beam from inside the housing for irradiating an external image carrier through the opening and the dustproof member; and

20 moving a shield between a first position at which the shield covers the light-permeable dustproof member when the optical writing mechanism is inactivated, and a second position at which the shield uncovers the light-permeable dustproof member.

25 30. The optical writing method according to Claim 29, further comprising the step of providing a cleaner to the

shield in contact with the light-permeable dustproof member for cleaning off an exterior of the light-permeable dustproof member when the shield is moved between the first and second positions in said moving step.

5

31. The optical writing method according to Claim 29, wherein the shield is supported by a positioning member.

32. The optical writing method according to Claim 31,
10 wherein the supporting member is driven by a driver.

33. An image forming method for electrophotographic image forming, comprising the steps of:

carrying an image by an image carrier; and

15 performing an optical writing method comprising the steps of:

storing an optical writing mechanism into a housing having an opening;

20 closing the opening with a light-permeable dustproof member;

emitting a light beam from inside the housing for irradiating the image carrier through the light-permeable dustproof member; and

25 moving a shield between a first position at which the shield covers the light-permeable dustproof member when the image forming operation of the image forming method is

inactivated, and a second position at which the shield
uncovers the light-permeable dustproof member.

34. The image forming method according to Claim 33,
5 wherein the optical writing method further comprises the step
of providing a cleaner to the shield in contact with the
light-permeable dustproof member for cleaning off an exterior
of the light-permeable dustproof member when the shield is
moved between the first and second positions in said moving
10 step.

35. The image forming method according to Claim 33,
wherein the shield is supported by a positioning member.

15 36. The image forming method according to Claim 35,
wherein the supporting member is driven by a driver.

37. An image forming method for electrophotographic
image forming, comprising the steps of:
20 carrying an image by an image carrier;
performing an optical writing method comprising the
steps of:

storing an optical writing mechanism into a
housing having an opening;
25 closing the opening with a light-permeable

dustproof member;

emitting a light beam from inside the housing
through the light-permeable dustproof member,

moving a shield between a first position at which the
5 shield covers the light-permeable dustproof member when an
image forming operation of the image forming method is
inactivated, and a second position at which the shield
uncovers the light-permeable dustproof member.

10 38. The image forming method according to Claim 37,
further comprising the step of providing a cleaner to the
shield in contact with the light-permeable dustproof member
for cleaning off an exterior of the light-permeable dustproof
member when the shield is moved between the first and second
15 positions in said moving step.

39. The image forming method according to Claim 37,
the shield is supported by a positioning member.

20 40. The image forming method according to Claim 39,
wherein the supporting member is driven by a driver.